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EXAMINER	
MIZRAHI, DIANE D	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/540,791	XU ET AL.	
	Examiner	Art Unit	
	DIANE MIZRAHI	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10-7-09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-49 are pending in the application. This office action is in response to the remarks of February 1, 2010. Examiner has had discussions with the Attorney of Record, Elizabeth Pham, in regards the amendment filed on February 1, 2010. No resolution has been achieved. Therefore, Examiner will issue a final office action, based on the remarks, infra. See new office action below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 17, 18, 33, and 49 rejected under 35 U.S.C. 102(e) as being anticipated by Da Torre (US 2003/0027540 A1).

Consider Claim 1, Da Torre teaches a mobile terminal with multi-antenna based on CDMA [0023]-[0024]), comprising: a plurality of groups of radio frequency signal processing modules ([0025]-[0031] and Fig. 2), for transforming received multi-channel radio frequency signals based on CDMA to multi-channel baseband signals ([0025]-[0031]); a multi-antenna module, for combining said multi-channel baseband signals outputted from said plurality of groups of radio frequency signal processing modules into single-channel baseband signals according to control information received one-off when said multi-antenna module enables a multi-antenna baseband processing ([0025]-[0031]); and a baseband processing module, for providing said control information to said multi-antenna module and baseband processing said single-channel baseband signals outputted from said multi-antenna module ([0030]).

Consider Claim 18, Da Torre teaches a method for a mobile terminal with multi-antenna based on CDMA, comprising: (a) transforming received multi-channel radio frequency signals based on CDMA to multi-channel baseband signals ([0025]-[0031]); (b) combining said multi-channel baseband signals into single-channel baseband signals according to control information received one-off when a multi-antenna baseband processing is enabled ([0025]-[0031]); and (c) baseband processing said single-channel baseband signals ([0025]-[0031]).

Consider Claim 49, Da Torre teaches a mobile terminal, comprising: a transmitting means, for transmitting signals via an uplink (transmitter of Fig. 2); a receiving means, wherein the receiving means includes: a plurality of groups of radio frequency signal processing modules, for transforming received multi-channel radio frequency signals to multi-channel baseband signals ([0025]-[0031] and Fig. 2); a multi-antenna module, combining said multi-channel baseband signals outputted from the plurality of groups of radio frequency signal processing modules into single-channel baseband signals according to control information received one-off when said multi-antenna module enables a multi-antenna baseband processing ([0032]-[0050] and Fig. 3); and a baseband processing module, providing said control information to said multi-antenna module and baseband processing said single-channel baseband signals outputted from said multi-antenna module ([0032]-[0050] and Fig. 3).

Consider Claim 17, Da Torre teaches the mobile terminal of claim 1, wherein the terminal is applied to mobile terminals or other mobile wireless communication terminals, wireless LAN terminals employing one of following standards: WCDMA, IS95, CDMA2000 ([0022]-[0024]).

Consider Claim 33, Da Torre teaches the method of claim 18, wherein the method is applied to mobile terminals or other mobile wireless communication terminals, wireless LAN terminals employing one of following standards: WCDMA, IS95,

CDMA2000 ([0022]-[0024]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 34-37, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Da Torre (US 2003/0027540 A1) in view of Sebastian (US 2003/0169720 A1).

Consider Claim 34, Da Torre teaches a multi-antenna processing device, comprising: a plurality of spatial filters, each of the plurality of spatial filters setting its

working modes (controlled by the control parameter) according to received instruction, and processing multi-channel baseband signals according to received information related to spatial features of signals of each specific path to separate signals of said each specific path from mixed signals ([0032]-[0050] and Fig. 3); a combiner, for combining signals outputted from each of said spatial filters according to received synchronization information (phase information, [00036]) and said instruction ([0032]-[0050]); except that it does not specifically teach a synchronization module, for providing said information related to spatial features of signals of each specific path to the plurality of spatial filters according to said instruction and said input multi-channel baseband signals, and providing said synchronization information to said combiner ; and a controller, for providing said instruction to said synchronization module, the plurality of spatial filters and said combiner according to received control information.
Da Torre teaches a module that provides phase information to provide to a combiner but does not specifically teach a synchronization module.

However, Sebastian teaches a synchronization module (carrier recovery module, [0122], [0126], [0130]-[0131], and [0135]-[0136]) for providing said information related to spatial features of signals of each specific path to the plurality of spatial filters according to said instruction ([0136]) and said input multi-channel baseband signals, and providing said synchronization information to said combiner ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b) ; and a controller (controller in carrier recovery module, for controlling synchronization) for providing said instruction to said synchronization

module, the plurality of spatial filters (separating the composite signals, [0136]) and said combiner according to received control information([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teachings of Sebastian into Da Torre to aid in the synchronization process ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b).

Consider Claim 35, Da Torre teaches the device of claim 34, wherein said controller includes a time alignment means, for time-aligning said signals outputted from each of the plurality of spatial filters(phase control, [0036]-[0050]).

Consider Claim 36, Da Torre teaches a multi-antenna processing device, comprising: a plurality of processing modules corresponding to a plurality of transmit antennas in a wireless communication system, receiving and processing signals from the plurality of transmit antennas, wherein each of said processing modules corresponding to transmit antennas is composed of a group of spatial filters (Fig. 3, item 314), and receives and processes signals from a specific transmit antenna, wherein said group of spatial filters includes a plurality of spatial filters, each setting its working mode according to received instruction (according to a control parameter) and processing multi-channel baseband signals according to received information related to spatial features of signals of each specific path to separate signals of each specific path

mixed signals ([0032]-[0050] and Fig. 3); a combiner, for combining signals outputted from said each group of spatial filters according to received synchronization information and said instruction ([0032]-[0050]); except that it does not specifically teach a synchronization module, for providing said information related to spatial features of signals of each specific path ([0136]) to said each group of spatial filters in said each processing module corresponding to transmit antenna according to said instruction and said input multi-channel baseband signals, and providing said synchronization information related to signals transmitted by the plurality of transmit antennas to said combiner ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b); and a controller, for providing said instruction to said synchronization module, the plurality of spatial filters (separating the composite signals, [0136]) in said each processing module corresponding to transmit antennas and said combiner according to received control information ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b).

Da Torre teaches a module that provides phase information to provide to a combiner but does not specifically teach a synchronization module. However, Sebastian teaches a synchronization module (carrier recovery module, [0122], [0126], [0130]-[0131], and [0135]-[0136]), for providing said information related to spatial features of signals of each specific path to said each group of spatial filters in said each processing module corresponding to transmit antenna according to said instruction and said input multi-channel baseband signals, and providing said synchronization information related to signals transmitted by the plurality of transmit antennas to said combiner ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b); and a

controller, for providing said instruction to said synchronization module (controller in carrier recovery module, for controlling synchronization), the plurality of spatial filters in said each processing module corresponding to transmit antennas and said combiner according to received control information([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b) .

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teachings of Sebastian into Da Torre to aid in the synchronization process ([0122], [0126], [0130]-[0131], [0135]-[0136], and Figs. 11b and 12b).

Consider Claim 37, Da Torre teaches the device of claim 36, wherein said combiner includes: a time alignment means, for time-aligning signals outputted from each of said spatial filters (combiner controller applying phase information to received antenna filters to improve performance, [0032]-[0050]).

Consider Claim 47, Sebastian teaches the device of claim 35, wherein said combiner includes: a plurality of delayers, delaying each of the output signals from the plurality of spatial filters to obtain synchronized signals under the control of the synchronization module ([0113] and Figs. 7C and 7D); and a combiner, for combining the synchronized signals delayed by said a plurality of delayers (Fig. 9B).

Examiner believes that the rejection under 35 U.S.C. 103 is the clear and that articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit." *Examination Guidelines for Determining Obviousness Under 35 U.5.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.,* 72 Fed. Reg. 57526, 57528-29.

Allowable Subject Matter

Claims 2-16, 19-32, 38-46, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner's Remarks:

Applicant's arguments filed February 2, 2010 have been fully considered but they are not persuasive.

Applicant argued:

a) Regarding The rejection of claims 1,17,33 and 49 under 35 U.S.C. 102. that De Torre fails to teach or suggest " multi-channel baseband signals; a multi-antenna

module, for combining said multi-channel baseband signals outputted from said plurality of groups of radio frequency signal processing modules into single-channel baseband signals according to control information received one-off when said multi-antenna module enables a multi-antenna baseband processing**".**

b) The rejection of claims 34-37 and 47 under 35 U.S.C. 103. that De Torre fails to teach or suggest **"** plurality of spatial filters setting its working modes according to received instruction, and processing multi-channel baseband signals according to received information related to spatial features of signals of each specific path to separate signals of said each specific path from mixed signals" and "spatial features of signals"

With regards to a) Examiner disagrees with Applicant's assertions. Examiner appreciates the interpretation description given by Applicant in response. Applicant discloses "multi-channel baseband signals; a multi-antenna module, for combining said multi-channel baseband signals outputted from said plurality of groups of radio frequency signal processing modules into single-channel baseband signals according to control information received one-off when said multi-antenna module enables a multi-antenna baseband processing", however there are no description or language indicative of limiting the interpretation of this limitations. Therefore, taking into consideration but without drawing limitations from the specification into the claim, the limitations "multi-channel baseband signals; a multi-antenna module, for combining said multi-channel

baseband signals outputted from said plurality of groups of radio frequency signal processing modules into single-channel baseband signals according to control information received one-off when said multi-antenna module enables a multi-antenna baseband processing" can be interpreted as (i.e a wireless communication system network element 200 is presented comprising control logic 202, memory 204, one or more transmitter(s) 206, one or more receiver(s) 208 at least a subset of which incorporate an innovative diversity combiner module 210, and two or more antennae 212. As used herein, communication system element 200 may well be implemented in a communication system (e.g., 102) as a subscriber unit (e.g., 106, 108), or in a communication station (e.g., 114), or as an element of one of the foregoing. Although depicted in FIG. 2 as a number of disparate blocks, one or more of the functional elements 202-212 of system element 200 may well be combined. In an alternate implementation, for example, transmitter(s) 206 and receiver(s) 208 are combined into one or more transceiver(s) (not shown). In this regard, wireless communication system network elements of greater or lesser complexity which incorporate the innovative diversity combiner module 210 are anticipated within the spirit and scope of the present invention. A control logic 202 selectively invokes one or more application(s) 209 to control one or more of the transmitter(s) 206 and receiver(s) 208 to facilitate the wireless communication session with another network element. In this regard, control logic 202 controls certain transmit and receive characteristics to enable system element 200 to effectively communicate within the architecture of a given wireless communication system (e.g., FDMA, TDMA, CDMA, SDMA, etc.). Accordingly, except

as configured in association with the teachings of the present invention, control logic 202 is intended to represent any of a number of alternate control systems known in the art including, but not limited to, a microprocessor, a programmable logic array (PLA), a micro-machine, an application specific integrated circuit (ASIC) and the like. In an alternate implementation, control logic 202 is intended to represent a series of executable instructions by an accessing machine, implement the control logic. Application(s) 209 are intended to represent a plurality of machine executable instructions and/or operational settings that may be executed by system element 200. More particularly, the instructions and operating parameters embodied within applications 209 provide the communication system element 200 with an operational "personality" when executed by, for example, control logic 202. In this regard, applications 209 may include instructions which, when executed by control logic 202, configure system element 200 to function in accordance with a TDMA-TDD standard, e.g., that of the Groupe Special Mobile (GSM) consortium. The transmitter 206 is selectively used by control logic 202 to transmit information, e.g., conversational content, data content and the like, from element 200 to another (receiving) wireless communication system element (not shown) via a wireless communication channel. In an implementation wherein element 200 is implemented as a wireless communication subscriber unit (e.g., 106, 108), transmitter 206 establishes and maintains the uplink component of the wireless communication link in accordance with a communication standard, or personality dictated by control logic 202. In an alternate implementation wherein element 200 is utilized as a communication station (e.g., 114), transmitter 206

establishes and maintains the downlink component of the wireless communication link. In this regard, transmitter 206 is intended to represent any of a number of transmitter(s) or transmit elements of a transceiver known in the art. The Receiver 208 is selectively utilized by control logic 202 to receive information, e.g., conversational content or enhanced data services, by element 200 from another wireless communication system element via one or more antenna(e) 212 over one or more wireless communication channels and in accordance with any one or more of the wireless communication standards introduced above. Unlike conventional receivers, however, receiver 206 is depicted comprising an innovative diversity combiner module 210. Although depicted comprising diversity combiner module 210, diversity combiner module 210 may well be remotely located, yet accessible to, receiver 206 within the scope and spirit of the present invention. Thus, but for its utilization of an innovative diversity combiner module 210, receiver 206 is intended to represent any of a number of receivers or receive elements of a transceivers. The diversity combiner module 210 receives wireless communication signals associated with a communication session via one or more communication paths, e.g., from multiple antennae 212, modifies one or more operational characteristics of the received signals before summing such modified signals for presentation to a single receive radio element. In accordance with one aspect of the present invention, the modification of the one or more operational characteristics of the received signals is based, at least in part, on signal quality parameter(s) generated during baseband processing of previously received signals. According to one implementation, the quality parameters may include one or more of a

cyclical redundancy check (CRC) error control scheme, SINR indicator(s), etc. and are derived from at least a sample of immediately previously received signal(s). In this regard, diversity combiner module 210 provides the advantages of pre-combining (i.e., only one receive radio element is required), and post-combining (i.e., more robust quality information) without assuming any specific antenna geometry, propagation channel model, etc. Indeed, in certain implementations (e.g., TDMA) to be described more fully below, diversity combiner module 210 also provide active interferer nulling in addition of signal to noise ratio (SNR) gain and fading protection. In addition, the diversity combiner module 210 is presented as a functional module of system element 200.) Paragraphs ([0025]-[0031])). Examiner wants to note that Applicant never described the “one-off” feature and therefore, Examiner has taken the broadest interpretation of this feature in rejecting the claims.

With regards to b) Examiner disagrees with Applicant’s assertions. Examiner appreciates the interpretation description given by Applicant in response. Applicant discloses "plurality of spatial filters setting its working modes according to received instruction, and processing multi-channel baseband signals according to received information related to spatial features of signals of each specific path to separate signals of said each specific path from mixed signals” and
“spatial features of signals", however there are no description or language indicative of limiting the interpretation of this limitations. Therefore, taking into consideration but without drawing limitations from the specification into the claim, the limitations can be

interpreted as (i.e plurality of spatial filters setting its working modes according to received instruction (i.e. filtering module 302 receives the RF signal from the antenna (e),) [0033] and [0049], and processing multi-channel (i.e. communication channels) [0029] baseband (i.e. communication signals, in accordance with control parameters generated by combiner control agent 306, before generating a composite of such signals for presentation to the receive radio. Receive radio 310 receives the operationally enhanced, composite signal from diversity combiner 210, downconverts the signal to an intermediate frequency (IF), filters the downconverted signal to reduce noise elements, and digitizes the IF signal for conversion to baseband. The filtered, IF signals are then presented to baseband processor(s) 312 for conversion to baseband) [0033] signals (i.e. communication from multiple antennae 212, modifies one or more operational characteristics) [0030] signals associated with a communication session via one or more communication paths (i.e. generate the control parameter for each of the receive paths.) [0036], according to received information related to spatial features of signals of each specific path to separate signals of said each specific path from mixed signals (i.e. all-pass filter element(s) 314 and a summing node 316, each coupled as depicted to selectively modify one or more characteristics of the received signals before combining such signals) [0032]" and "spatial features of signals" (i.e. base station) [0003]; see also i.e. communication signals, in accordance with control parameters generated by combiner control agent 306, before generating a composite of such signals for presentation to the receive radio. Receive radio 310 receives the operationally enhanced, composite signal from diversity combiner 210, downconverts

the signal to an intermediate frequency (IF), filters the downconverted signal to reduce noise elements, and digitizes the IF signal for conversion to baseband. The filtered, IF signals are then presented to baseband processor(s) 312 for conversion to baseband.) [0033].

Applicant's arguments filed March 10, 2009, have been fully considered but they are not persuasive.

Applicant discussions, as noted in sections (a-b) supra have been fully addressed. Therefore, Da Torre in combination of Sebastian teaches Applicant's claimed invention of mobile terminal with multi-antenna based on CDMA.

Therefore the argued features are written broad or are written such that they read upon the cited references, De Torre and Sebastian.

It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonable pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, all references are concerned with a wireless communication system in which parameters accessible by a mobile communications devices.

It is noted, *PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN* "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275,277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including non preferred embodiments (see MPEP 2123).

Response to Arguments

Based on the newly amended claims, Examiner has reconsidered Applicant's amendment. Therefore the Examiner respectfully maintains the rejection of claims 1-49 at least at this time based on the Final Office herein and all the above evidence.

Applicant is invited to further amendment the claims to overcome the prior art made of record. Examiner asserts that the prior art made of record teaches Applicant's claimed invention. At this time, the claims are not allowable over the prior art made of record.

Applicant's arguments with respect to the claims have been considered but are moot in view the rejection above and the rejection stated in this office action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diane D. Mizrahi whose telephone number is 571-272-4079. The examiner can normally be reached on Monday-Thursday (9:30 - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 305-3900 for After Final communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.qov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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May 15, 2010